REMARKS

Amendments to the specification correct typographical errors; no new matter is added to the specification by any of these amendments. The claims have been amended to more particularly point out the subject matter of the Applicant's invention and not to overcome anticipation by the prior art. No new matter is added by any of these amendments. Entry of the amendments is respectfully requested.

Reconsideration is respectfully requested. Claims 1-18, 26, and 33-50 were pending in this application. Claim 26 was allowed in a prior Office Action (Paper No. 13). Claims 1, 11, 13, and 33 have been amended to more particularly point out the subject matter of the Applicant's invention. Furthermore, the amendments distinguish further from the prior art. Independent claim 33 has been amended to place it in conformity with claim 1. After entry of this amendment, claims 1-18 and 33-50 will be under consideration, claim 26 having been allowed.

A copy of the above amendments to the specification showing where changes where made is appended to this communication and is titled "Version to show changes made".

Page one of the Examiner's instant Office Action Summary (Paper No. 17) indicates that claims 18-25 and 27-32 are withdrawn from consideration (Box 4a) and yet further indicates that claims 1-18, 26, and 33-50 are rejected (Box 6). Applicants note that claim 18 has not been canceled by Applicants and that recitation of claim 18 in Box 4a is in error. Applicants note that claim 26 is not rejected by the Examiner in the instant Office Action and request clarification since it had been allowed in the previous Office Action.

Applicants have canceled claim 12. Support for the amendments to claim 1 is found in claims 1 and 12 as originally filed and in the specification at page 4, lines 3-11 and 30-32; and at page 16, lines 34-37 and continued on page 17, lines 1-3. Support for the amendments to claim 11 is found in the specification at page 4, lines 31-32. Support for the amendments to claim 13 is found in the specification at page 4, lines 3-11 and 30-32. Support for the amendments to claim 33 is found in the specification at page 4, lines 3-11 and 31-32; and at page 16, lines 34-37 and continued on page 17, lines 1-3.

The Examiner stated that Applicants had not stated in their previous amendment that no new matter had been introduced into the specification (Paper No. 17, page 2, lines 4-5, mailed 22nd October, 2002).

Applicants respectfully apologize to the Examiner for this omission and hereby state that the

amendments in Applicants' prior response, mailed 9th August, 2002, (Paper No. 15), introduced no new matter.

Response to Examiner's Detailed Action

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1, 10, 11, and 13, under 35 U.S.C. 102(b) as being anticipated by Kim et al. (The Plant Journal, 1997, Vol. 11, pages 1237-1251, Applicant's IDS). The Examiner stated that the rejection was maintained for reasons of record in Paper No. 13. Applicant's arguments had been fully considered but they were not persuasive to the Examiner.

Applicants have amended claim 1 to recite : "A method of determining whether a member of a pool of cloned test transcription factor polynucleotides encodes a plant pathway transcription factor, the method comprising: collecting a pool of cloned test transcription factor polynucleotides; introducing into a plant cell a nucleic acid comprising a plant promoter of a pathway gene operably linked to a reporter gene; introducing into the plant cell a member of the pool of cloned test transcription factor polynucleotides; and detecting expression of said reporter gene in the plant cell, thereby determining whether the member of the cloned test transcription factor polynucleotide pool encodes a plant pathway transcription factor". Applicants have amended claim 11 to recite : "The method of claim 1, wherein said cloned test transcription factor polynucleotide is expressed transiently in the plant cell". Applicants have amended claim 13 to recite : "The method of claim 1, wherein said plant promoter operably linked to a reporter gene is transiently transfected into the plant cell".

Applicants respectfully submit that the claims, as amended, no longer read upon the yeast cells as taught by Kim et al. and that the claims as amended now distinguish over the prior art.

With the amendments to claims 1, 11, and 13, set forth above, Applicants respectfully request that the rejection of claims 1, 10, 11, and 13 under 35 U.S.C. § 102 (b), be withdrawn.

Claim Rejections - 35 U.S.C. § 103

The Examiner rejected claims 5-9, and 12 under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. in view of Memelink et al. (WO 0046383, henceforth the '383 publication). The Examiner stated that the rejection was maintained for reasons of record in Paper No. 13. Applicant's arguments had been fully considered but they were not persuasive to the Examiner.

Applicants have canceled claim 12. Applicants respectfully submit that the amendments to claim 1 as disclosed above now distinguish claims 5-9 over Kim et al. in view of the '383 publication.

Applicants respectfully submit that the claims as amended do not read upon a one-hybrid yeast cell system as disclosed by Kim and instead are drawn to methods of using plant cells to determine the action of a polynucleotide.

Applicants respectfully draw the Examiner's attention to page 1238, first column, second paragraph, lines 4-12, where Kim et al. teach the principals of the yeast one-hybrid system.

Kim et al. teach that the one-hybrid yeast system comprises fusing polynucleotides from a cDNA library with a bacterial polynucleotide encoding a GAL4 protein transcriptional activation domain, i.e. a construct comprising a polynucleotide hybrid of a cDNA library polynucleotide with a bacterial polynucleotide. Applicant's invention does not use a bacterial polynucleotide encoding a GAL4 protein transcriptional activation domain.

Kim et al. teach that the resulting one-hybrid construct is then expressed in yeast containing a reporter plasmid, the latter comprising a polynucleotide DNA binding site for the factor of interest inserted upstream of a minimal bacterial promoter region of the reporter gene. Applicant's invention does not use a minimal bacterial promoter region of a reporter gene.

Applicants have canceled claim 12. Therefore, with the amendments to claim 1 set forth above, Applicants respectfully request that the rejection of claims 5-9 under 35 U.S.C. § 103 (a), be withdrawn.

New Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1, 2, 4-14, 16, 17, 33, 35, and 37-49 under 35 U.S.C. § 102 (e) as being anticipated by the '383 publication.

Applicants respectfully the traverse the rejection for reasons of record in Paper No.15. In addition, Applicants further respectfully submit that the teachings of the '383 publications at page 8, lines 7-18, describe steps in a method of constructing a recombinant cell using an already characterized nucleotide sequence coding for a transcription factor using, for example, transient activation tagging (see '383 publication, pages 59 through 65). The method described in the '383 publication is used to validate the characterization (see '383 publication, pages 67 through 71). Applicants respectfully submit that the recitation of the '383 publication, page 8, lines 7-18, cited by the Examiner at page 6 of the instant Office Action (Paper No. 17), is drawn to a method of constructing a recombinant cell ('383 publication, page 8, lines 5-6) not a method for identifying a polynucleotide sequence.

Applicants have amended claim 1 to recite: "A method of determining whether a member of a pool of cloned test transcription factor polynucleotides encodes a plant pathway transcription factor, the method comprising: collecting a pool of cloned test transcription factor polynucleotides; introducing into a plant cell a nucleic acid comprising a plant promoter of a pathway gene operably linked to a reporter gene; introducing into the plant cell a member of the pool of cloned test transcription factor polynucleotides; and detecting expression of said reporter gene in the plant cell, thereby determining whether the member of the cloned test transcription factor polynucleotide pool encodes a plant pathway transcription factor".

Applicants have amended claim 33 to recite: "A method of determining whether two or more members of a pool of cloned test transcription factor polynucleotides are required for expression from a pathway gene promoter, the method comprising: collecting a pool of cloned test transcription factor polynucleotides; introducing into a plant cell a nucleic acid comprising a biosynthetic pathway gene promoter operably linked to a reporter gene; introducing into the plant cell the pool of cloned test transcription factor polynucleotides; and detecting expression from said biosynthetic pathway gene promoter in the plant cell, thereby determining whether two or more members of the cloned test transcription factor polynucleotide pool are required for expression from said promoter".

Applicants respectfully submit that none of the experimental examples in the '383 publication disclose using a pool of test transcription factor polynucleotides, nor does it describe introducing a member of a pool of test transcription factors into a plant cell.

Applicants respectfully submit that the instant invention is drawn to using the method to identify which member or members of a pool of transcription factor polynucleotides encode a pathway transcription factor and not to a method of constructing a recombinant cell using a transcription factor which is capable of regulating in the source cell the expression of at least one gene (see '383 publication, page 8, lines 9-10).

Applicants respectfully submit that the assay for capability, absent any other definition in the '383 publication, is disclosed in the '383 publication at pages 56 through 59, lines 1-16 and Figures 1, 2, 3, and 4. The '383 publication therein discloses that the assay uses a recombinant promoter fragment operably linked to a reporter gene transformed into a cell which is then screened for activation by an endogenous mechanism.

Applicants further respectfully submit that the instant invention does not rely upon a limiting step of identifying whether a member of the pool of test transcription factor polynucleotides has such a capability of regulating in the source cell the expression of at least one gene, as disclosed by the '383

publication, prior to transforming a cell with a test transcription factor polynucleotide.

Claims 1 and 33 have been amended to more particularly point out the subject matter of the Applicant's invention and not to overcome anticipation by the prior art. Further, the amendments distinguish the claims further from the prior art.

Applicants respectfully submit that the '383 publication does not read upon the prior art and therefore, together with the amendments to claims 1 and 33 above, respectfully request that the new rejection of claims 1, 2, 4-14, 16, 17, 33, 35, and 37-49 under 35 U.S.C. § 102 (e) be withdrawn.

New Claim Rejections - 35 U.S.C. § 103

The Examiner stated that this application currently names joint inventors.

Applicants respectfully request clarification since only one inventor has been named.

The Examiner rejected claims 15 and 50 under 35 U.S.C. § 103 (a) as being unpatentable over the '383 publication as applied to claims 1, 2, 4-14, 16, 17, 33, 35 and 37-49 above, in view of Wildung et al. (J. Biol. Chem. 271:9201-9204, 1996).

Applicants have amended claims 1 and 33 to more particularly point out the subject matter of the Applicant's invention and not to overcome anticipation by the prior art. Further, the amendments distinguish the claims further from the prior art. In addition, Applicants have argued above that the '383 publication does not anticipate the instant invention.

Applicants respectfully submit that the arguments as disclosed above distinguish claims 15 and 50 over the '383 publication in view of Wildung et al.

The Examiner rejected claims 3 and 36 under 35 U.S.C. § 103 (a) as being unpatentable over the '383 publication in view of Kim et al.

Applicants have amended claims 1 and 33 to more particularly point out the subject matter of the Applicant's invention and not to overcome anticipation by the prior art. Further, the amendments distinguish the claims further from the prior art. In addition, Applicants have argued above that the '383 publication does not anticipate the instant invention.

Applicants respectfully submit that the arguments as disclosed above distinguish claims 3 and 36 over the '383 publication in view of Kim et al.

The Examiner rejected claims 18 and 34 under 35 U.S.C. § 103 (a) as being unpatentable over the '383 publication in view of Subramanian et al. (US 2002/0058249 a1).

Applicants have amended claims 1 and 33 to more particularly point out the subject matter of the Applicant's invention and not to overcome anticipation by the prior art. Further, the amendments distinguish the claims further from the prior art. In addition, Applicants have argued above that the '383 publication does not anticipate the instant invention.

Applicants respectfully submit that the arguments as disclosed above distinguish claims 18 and 34 over the '383 publication in view of Subramanian et al.

Therefore, with the amendments to claims 1 and 33, together with the arguments disclosed above, Applicants respectfully request that the new rejection of claims 3, 15, 18, 34, 36, and 50 under 35 U.S.C. § 103 (a), be withdrawn.

CONCLUSION

In view of the above remarks, it is submitted that this application is now ready for allowance. Early notice to that effect is solicited. If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned at (510) 259-6120.

Applicants have requested a one (1) month extension of time to respond to the Examiner's instant Office Action. Applicants believe that no additional fee is due with this communication. However, if the USPTO determines that a fee is due, the Commissioner is hereby authorized to charge Mendel Biotechnology, Inc. Deposit Account No. **501025. This form is enclosed in duplicate.**

Respectfully submitted,
MENDEL BIOTECHNOLOGY, INC.

Date: 21st February 2003

Matthew R. Kaser, D.Phil.
Reg. No. 44,817

21375 Cabot Boulevard
Hayward, California 94545
Phone: (510) 259-6120
Fax: (510) 264-0254

VERSION TO SHOW CHANGES MADE

IN THE SPECIFICATION

Please delete the following at page 30, line 1 of the specification:

-- [**BIOSYNTHETIC PATHWAY TRANSCRIPTION FACTORS**] --

Please insert and replace at page 8, line 31:

-- Application Serial No. [_____,] 09/699,083, entitled "Method for Selecting Metabolite Producing Cells", --

Please insert and replace at page 9, line 13:

-- was identified and sequenced as described in US Patent Application Serial No. [_____,] 09/699,083, --

IN THE CLAIMS

Please amend claims 1, 11, 13, and 33 as follows:

1. (Thrice Amended) A method of determining whether a member of a pool of cloned test transcription factor polynucleotides encodes a plant pathway transcription factor, the method comprising: collecting a pool of cloned test transcription factor polynucleotides; introducing into a plant cell a nucleic acid comprising a plant promoter of a pathway gene operably linked to a reporter gene; introducing into the plant cell a member of the pool of cloned test transcription factor polynucleotides; and detecting expression of said reporter gene in the plant cell, thereby determining whether [a] the member of the cloned test transcription factor polynucleotide pool encodes a plant pathway transcription factor.

11. (Twice Amended) The method of claim 1, wherein said cloned test transcription factor polynucleotide is expressed transiently in the plant cell.

13. (Amended) The method of claim 1, wherein said plant promoter [is] operably linked to a reporter gene is transiently transfected into [a] the plant cell.

33. (Thrice Amended) A method of determining whether two or more members of a pool of cloned test transcription factor polynucleotides are required for expression from a pathway gene promoter, the method comprising: collecting a pool of cloned test transcription factor polynucleotides; introducing into a plant cell a nucleic acid comprising a biosynthetic pathway gene promoter operably linked to a reporter gene; introducing into the plant cell the [a] pool of cloned test transcription factor polynucleotides; and detecting expression from said biosynthetic pathway gene promoter in the plant cell, thereby determining whether two or more members of the cloned test transcription factor polynucleotide pool are required for expression from said promoter.